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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/970,399	10/03/2001	Miroslav Svajda	47161-00016	9667
30223	7590	03/07/2005	EXAMINER	
JENKENS & GILCHRIST, P.C. 225 WEST WASHINGTON SUITE 2600 CHICAGO, IL 60606			NI, SUHAN	
			ART UNIT	PAPER NUMBER
			2643	

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/970,399

Applicant(s)

SVAJDA ET AL.

Examiner

Suhan Ni

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2004.
- 2a) ☐ ThisN is FINAL. NSEic ~~TE2b~~ ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27,44 and 46-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27,44 and 46-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. In response to the request made timely by the applicant on 01/19/2005, the Office Action including restriction/election requirement mailed 12/29/2004 has been vacated.
2. In view of the appeal brief filed on 09/17/2004, PROSECUTION IS HEREBY REOPENED.

The finality of the office action has been withdrawn and a new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitations of “**a third filter for pass said second non-audio frequency signal**” in claim 18, “**an analog-to-digital converter**” in claims 23-24, 44 and 46 and “**a microcontroller for processing said non-audio frequency signal, said microcontroller providing functions for the operation of said hearing aid in**

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**response to said non-audio frequency signal”** in claim **25** must be shown or the feature canceled from the claims. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112, 1<sup>st</sup> Paragraph***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 18 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the

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claimed invention. The feature of “**a third filter for pass said second non-audio frequency signal**” is not clearly supported by specification.

***Claim Rejections - 35 USC § 112, 2<sup>nd</sup> Paragraph***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 11, it recites the limitation of “said amplified signal” in line 12. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) The invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. Claims 1-3 and 8-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Taenzer et al. (U. S. Pat. - 6,603,860).

Regarding claims 1 and 8, Taenzer et al. disclose an integrated amplified telecoil system (Fig. 3), comprising: a telecoil (200) for producing an electrical output signal in response to electromagnetic radiation; a first amplifier (202) receiving said electrical output signal and

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having a first amplifier output producing a first amplified signal; and a first filter (206) having a selected pass band in an audio frequency range integrated into an integrated circuit with said first amplifier, said first filter coupled to said first amplifier output for receiving said first amplified signal and having a first filter output producing a first filtered signal.

Regarding claims 2-3 and 9-10, Taenzer et al. further disclose the system (Fig. 3), wherein the system includes a second amplifier (210) integrated onto said integrated circuit with said first amplifier and said first filter as claimed.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4-6 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taenzer et al. (U. S. Pat. - 6,603,860) in view of Mead et al. (U. S. Pat. - 6,044,162).

Regarding claims 4-6, 11-13, Taenzer et al. do not clearly teach a second filter and a second amp as claimed. Mead et al. disclose a similar structured hearing aid comprising a preamp (130); a first filter (116-1); a first amp (118-1); at least a second filter (116-m); and at least a second amp (118-m). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to be motivated to provide the second set filter and amp taught by Mead et al. for the system, in order to provide a hearing device capable of modifying the differential sampled signal according to the needs of the different group of users.

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8. Claims 7 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taenzer et al. (U. S. Pat. - 6,603,860).

Regarding claims 7, 14 and 16, Taenzer et al. do not specially teach the details of the telecoil as claimed. Since Taenzer et al. do not specially restrict to any telecoil, and a center-tapped telecoil is very well known in the art and commercially available, it therefore would have been obvious to one skilled in the art at the time the invention was made to be motivated to provide the center-tapped telecoil with two signal output terminals and other necessary elements, such as a capacitor for the hearing device, in order to provide users a wireless communication hearing device with desirable acoustic characteristics.

Regarding claim 15, Taenzer et al. disclose a telecoil system for a listening device, comprising: a telecoil (200) for producing electrical output signals in response to being exposed to an electromagnetic field; and an integrated circuit (Fig. 3) receiving said electrical output signals, said integrated circuit including an amplifier (202) providing amplified electrical output signals and a filter (206) for passing selected signals from said amplified electrical output signals. But Taenzer does not specially teach a frequency range for the selected signals as claimed. Since Taenzer et al. teach a hearing aid generally used by human, and do not specially restrict to any specific frequency range for output signals, it therefore would have been obvious to one skilled in the art at the time the invention was made to be motivated to provide a suitable filter having a passband of 21-11K Hz for the hearing device, in order to provide hearing device according to the needs of the different group of users.

9. Claims 17 and 19-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taenzer et al. (U. S. Pat. - 6,603,860) in view of Hueber (U. S. Pat. - 4,790,019).

Regarding claim 17, Taenzer et al. disclose a telecoil system for a hearing aid (100), comprising: a telecoil (200) for producing electrical output signals in response to being exposed to an electromagnetic field, said electrical output signals including an audio frequency signal; and an integrated circuit having an amplifier (202) for amplifying said electrical output signal, a first filter for passing said audio frequency signal. But Taenzer et al. do not clearly teach a non-audio frequency signal as claimed. Hueber discloses a similar structured hearing aid, comprising electrical output signals including an audio frequency signal (output of lowpass filter 15) and a non-audio frequency signal (output of highpass filter 14); and an integrated circuit having an amplifier (13) for amplifying said electrical output signal, a first filter (15) for passing said audio frequency signal, and a second filter (14) for passing said non-audio frequency signal. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to be motivated to provide a second channel, or a separate control channel for processing a non-audio controlling signal for the system, in order to provide hearing device having more desirable acoustic characteristics or features, such as wirelessly remote acoustic controlling.

Regarding claims 19-20, Taenzer et al. further disclose the telecoil system for a hearing aid (100), wherein said telecoil and said amplifier are coupled differentially and in a single-ended fashion as claimed (Fig. 3).

Regarding claims 21-22, Taenzer et al. do not clearly show all the accessory elements of the telecoil as claimed. Since providing desirable accessory elements for a telecoil is very well known in the art and commercially available, it therefore would have been obvious to one skilled in the art at the time the invention was made to be motivated to provide a telecoil system having desirable accessory elements, such as a protection circuitry for the hearing aid as an alternate



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choice, in order to provide more durable hearing device with more desirable acoustic characteristics.

Regarding claims 23-24, Taenzer et al. do not clearly teach ADCs as claimed. Since providing suitable ADC and DAC for an hearing device is very well known in the art, it therefore would have been obvious to one skilled in the art at the time the invention was made to be motivated to provide ADC and DAC for the hearing aid, in order to provide more advanced digital hearing aid.

Regarding claim 25, based on the previous rejection to claim 17, Hueber further discloses the hearing aid including a micro-controller (19-21 and 26-27) as claimed.

Regarding claims 26-27, Taenzer et al. do not specially teach the details of the telecoil as claimed. Since Taenzer et al. do not specially restrict to any telecoil, and a center-tapped telecoil is very well known in the art and commercially available, it therefore would have been obvious to one skilled in the art at the time the invention was made to be motivated to provide the center-tapped telecoil with two signal output terminals and other necessary elements, such as a capacitor for the hearing device, in order to provide users a wireless communication hearing device with desirable acoustic characteristics.

10. Claims 44 and 46-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (U. S. Pat. - 6,115,478) in view of Hough (U. S. Pat. - 4,606,329).

Regarding claim 44, Schneider discloses a method of operating a listening device, comprising: an integrated circuit, said circuit receiving an analog electrical signal (from 11); amplifying (13) said analog electrical signal to develop an amplified analog signal; converting (15) said amplified analog signal to a digital signal; processing said digital signal into at least two digital outputs (received by 28 and 34), one of said at least two digital outputs being an

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audio frequency band output (received by 28), and another of said at least two digital outputs being a control band frequency output (received by 34); and operating said listening device in a manner corresponding to said control band frequency output (Fig. 1) as claimed. But Schneider does not clearly teach of converting electromagnetic radiation to an analog electrical signal with a telecoil as claimed. Hough discloses an implant hearing device, comprising a telecoil system for transmitting signals by converting electromagnetic radiation to an analog electrical signal (Fig. 3). Since Schneider does not specially restrict the type of the digital hearing device, it therefore would have been obvious to one skilled in the art at the time the invention was made to be motivated to provide a suitable receiving device, such as an inductive telecoil taught by Hough, for the digital hearing aid, in order to provide an implantable digital hearing aid.

Regarding claims 46-47, But Schneider does not clearly teach the details of the ADC as claimed. Since Schneider does not specially restrict to any ADC and provide a desirable ADC and DAC for digital hearing device is very well known in the art, it therefore would have been obvious to one skilled in the art at the time the invention was made to be motivated to provide a suitable ADC having desirable specification, such as sampling rate, for the digital hearing aid, in order to provide an implantable digital hearing aid with effective and efficient processing power.

Regarding claim 48, Schneider discloses a listening device, comprising: a receiver (11) for producing electrical output signals, said electrical output signals including an audio frequency signal (received by 28) and a non-audio frequency signal (32); and a hybrid circuit including at least one integrated circuit placed on a common miniature device that fits within a hearing aid (Fig. 1), said hybrid circuit having an amplifier (13) for amplifying said electrical output signal and at least one filter (26) for passing said audio frequency signal. But Schneider does not clearly teach of converting electromagnetic radiation to an analog electrical signal with

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a telecoil as claimed. Hough discloses an implant hearing device, comprising a telecoil system for transmitting signals by converting electromagnetic radiation to an analog electrical signal (Fig. 3). Since Schneider does not specially restrict the type of the digital hearing device, it therefore would have been obvious to one skilled in the art at the time the invention was made to be motivated to provide a suitable receiving device, such as an inductive telecoil taught by Hough, for the digital hearing aid, in order to provide an implantable digital hearing aid.

### ***Conclusion***


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Suhan Ni** whose telephone number is (703)-308-9322, and the number for fax machine is (703)-305-9508. The examiner can normally be reached on Monday through Thursday from 9:00 am to 7:30 pm. If it is necessary, the examiner's supervisor, **Curtis Kuntz**, can be reached at (703) 305-4708.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (**PAIR**) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov/>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

13. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 305-3900.

SN

February 12, 2005

  
SUHAN NI  
PRIMARY EXAMINER